3 Cancer trends

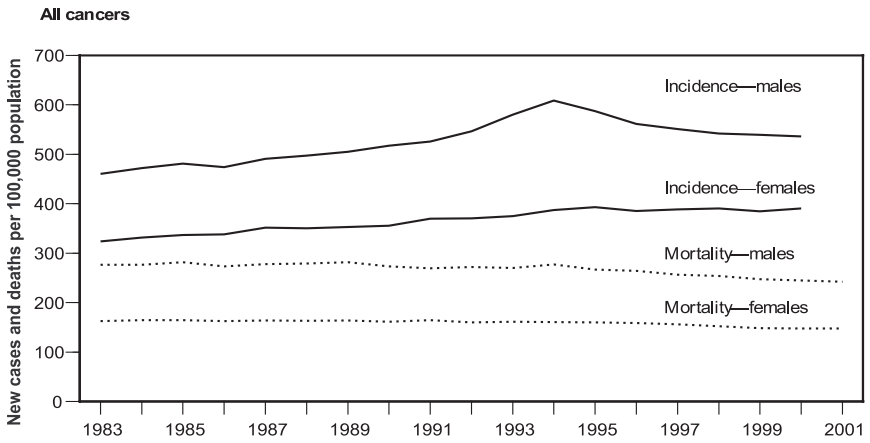
National trends in cancer incidence and mortality

National cancer incidence and mortality rates for the most common cancer sites are presented in Figures 11–17. Incidence data are presented for the period 1983–2000 while mortality data are presented for the period 1983–2001.

The trends in incidence and mortality rates vary with the type of cancer. Some rates have shown an increase since 1983 while others have remained relatively stable or decreased. In assessing these trends it is important to recognise that small changes in the trend in the most common cancers (for example, breast, prostate) can mean a substantial shift in the numbers of new cases or deaths, whereas the same shift in less common cancers can have a relatively small impact. For example, a 1% increase in the breast cancer incidence rate results in an increase of approximately 113 new cases, whereas the same percentage increase in cervical cancer incidence would result in approximately seven new cases.

Between 1990 and 2000, age-standardised incidence rates for all cancers combined (except skin cancers other than melanoma) increased for males by an average of 4.4% per annum until 1994 and then declined by an average of 2.1% per annum until 2000. For females, age-standardised rates increased by an average of 1.9% until 1995 and then fluctuated around this level through to 2000 (Figure 11). These incidence rates have been strongly influenced by the steady rise in breast cancer incidence and the rise and fall of prostate cancer incidence during this period.

Between 1990 and 2000, age-standardised mortality rates for all cancers combined (except skin cancers other than melanoma) hovered around 270 cases per 100,000 for males until 1994 and then decreased by an average of 2.0% through to 2000. For females the age-standardised rates remained close to 160 cases per 100,000 until 1996 and then declined by an average of 2.0% through to 2000.



Source: Cancer in Australia 2000, AIHW & AACR, 2003.

Figure 11: Trends in age-standardised incidence and mortality rates for all cancers (excluding skin cancers other than melanoma), Australia, 1983–2001

The decline in male lung cancer and prostate cancer deaths is the main contributor to the falling mortality rate for males. The number of new cases of cancer increased by 79% from 47,666 in 1990 to 85,231 in 2000 while the number of deaths increased by 39% from 25,476 in 1990 to 35,466 in 2000.

Prostate cancer

Prostate cancer incidence rates were relatively stable up until 1989 but between 1990 and 1994 there was a dramatic rise in the number of new cases of prostate cancer registered (Figure 12). This upward trend has been attributed to increased detection of the disease through increased investigations, particularly the introduction of PSA testing (introduced around 1990). However, from 1994 to 1997 the age-standardised prostate cancer incidence rate fell by 30%. There has been little change between the 1998 and 2000 rate. PSA tests are specifically designed to identify cancers before the onset of clinical symptoms. Many of these prevalent cancers may not show any symptoms, and therefore would not be detected except for PSA testing. Much of the rise in the incidence rate of prostate cancer can be attributed to detection of these prevalent cancers. The recent decline in the incidence rate indicates a return towards the underlying rate, removing the effect of these previously undetected cases. The death rate from prostate cancer, which is significantly lower than the incidence rate, decreased by 1.3% per annum between 1990 and 2000.

Breast cancer

Among females, breast cancer is the most frequently diagnosed cancer and it is the most common cause of cancer-related death. The incidence of breast cancer in females rose from 94.6 cases per 100,000 population in 1990 to 115.3 cases per 100,000 population in 2000. The breast cancer incidence rate increased on average 1.7% per annum between 1990 and 2000 (Figure 12). From 1990 to 2000 the breast cancer mortality rates declined by an average of 2.0% per year.

Colorectal cancer

For colorectal cancer, both the male and female incidence rates have increased since 1990 by an average of 0.4% and 0.1% respectively per year. Mortality rates have fallen steadily—the male rate decreased 0.9% per annum between 1990 and 2000 and the female rate decreased 1.4% (Figure 12).

Lung cancer

Between 1990 and 2000, the incidence and mortality of lung cancer among males fell by an average of 1.9% per year (Figure 13). These declining rates are attributed to decreased tobacco smoking among men 10 to 20 years earlier, and represent the lowest incidence rate (62.1 new cases per 100,000 population) recorded since national data collection began in 1982. In contrast, lung cancer incidence among females increased by 1.3% per annum between 1990 and 2000. However, the increase in lung cancer incidence is predominantly in women aged 65 years and over, while rates in younger women have generally remained stable or fallen. The death rate from lung cancer among females also increased on average by 1.2% per annum between 1990 and 2000.

Melanoma

The incidence rate for melanoma among males and females increased between 1990 and 2000 on average by 2.4% and 1.5% per year respectively, some of this increase due to improved

registration of this cancer. Mortality rates for males increased by 0.1% per annum between 1990 and 2000 while the female rates decreased by 0.5% per annum over the same period (Figure 13).

Non-Hodgkin's lymphoma

The incidence of non-Hodgkin's lymphoma increased by an average of 0.8% per year in males and 1.7% in females between 1990 and 2000 (Figure 14). The mortality rate in males and females with non-Hodgkin's lymphoma increased annually by 0.2% and 1.0% respectively between 1990 and 2000.

Cancer of the bladder

The incidence of bladder cancer for males increased between 1990 and 2000 by an average of 0.2% per annum (Figure 14). Some of the increase in male incidence may be a result of the increased use of screening for prostate cancer leading to a diagnosis of bladder cancer as part of the diagnostic work-up. The female incidence rate increased by an average of 0.9% per annum over the same period. Mortality rates decreased for both males and females between 1990 and 2000—0.3% per annum and 1.0% per annum respectively.

Cancer of the stomach

Stomach cancer incidence fell by an average of 2.2% and 1.5% per year for males and females respectively over the period 1990–2000 (Figure 14). Mortality rates decreased substantially for both sexes over the 1990 to 2000 period, by 3.2% in males and 3.8% in females on average per annum.

Leukaemias

The incidence rate for leukaemias in males and females decreased between 1990 and 2000 by an average of 0.7% and 0.3% respectively per year (Figure 15). During the same time the mortality rates increased by 0.5% per annum for males and decreased by 0.2% per annum for females.

Brain cancer

Incidence of brain cancer between 1990 and 2000 increased by an average of 0.3% per annum in males and decreased by an average of 0.6% per annum in females (Figure 15). The mortality rate over the same period remained stable for males and decreased on average for females by 0.6% per year.

Cancer of the pancreas

Between 1990 and 2000, the male incidence and mortality rates for cancer of the pancreas fell annually by an average of 0.5% and 0.6% respectively. In contrast, over the same period, the female incidence rate increased by an average of 0.5% per year and the female mortality rate increased by an average of 0.4% per year (Figure 15).

Cervical cancer

The age-standardised incidence rate for cervical cancer declined by an average of 5.7% per annum between 1990 and 2000 (Figure 16). This decline was achieved despite a sharp rise in new cases between 1993 and 1994 and between 1997 and 1998. Mortality rates have fallen by an average of 5.2% per year since 1990. These gains are due, in part, to the success of the National Cervical Screening Program.

Cancer of the uterus

The incidence rate for cancer of the uterus increased on average by 0.7% per year between 1990 and 2000. The mortality rate decreased 1.4% per annum in the same period (Figure 16).

Cancer of the ovary

The incidence and mortality rates for cancer of the ovary declined on average by 0.3% and 1.7% per year between 1990 and 2000 respectively (Figure 16).

Cancer of the kidney

Between 1990 and 2000, male and female incidence rates for cancer of the kidney increased by an average of 1.8% and 1.2% per annum respectively. Mortality rates increased by 0.2% per annum for males and decreased by 0.9% for females (Figure 17).

Cancer of the testis

The incidence rate for testicular cancer increased on average by 2.3% per annum between 1990 and 2000. The mortality rate declined on average by 2.7% per annum over the same period (Figure 17).

Cancers of unknown primary site

'Cancers of unknown primary site' is a category that captures cancer diagnoses which cannot be attributed to a particular body site. While some of these cancers have common features, at least in terms of aetiology, behaviour and outcome, others are a mixed collection. This makes it difficult to interpret with certainty the patterns of these cancers, particularly for mortality where often little histological evidence is available to identify a cancer site. Although there are many cancers in this category, it is important to know the current trends, given that this cancer group represents about 4% of new cases and 7% of deaths. Between 1990 and 2000 mortality rates decreased on average for both males and females by 2.7% and 1.9% per annum respectively. Incidence rates declined for both males and females on average by 2.0% and 1.5% per annum respectively (Figure 17). This may reflect a tendency for clinicians to investigate cancer cases more extensively, or for patients to present earlier with symptoms, before further investigation becomes unfruitful, resulting in fewer cases being classified as cancers of unknown primary site.